COP SECURITY® ™

15-QC43

DUAL-PAGE
QUAD PROCESSOR

15-QC42

QUAD PROCESSOR

User's Manual

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IMPORTTANT SAFEGUARDS

1. Read manual thoroughly before setup or operation of this product.
2. Save this booklet for further reference.
3. Follow the instructions and heed all warning notices.
4. Do not use liquid or aerosol cleaners on this product, use a slightly damp cloth only. Do this only with the unit unplugged from the power source.
5. Do not use accessories not recommended by your dealer or installer with this unit.
6. Keep unit in a dry location. Dampness or moisture will be damage the internal components.
7. Do not block ventilation openings on unit.
8. Never insert any objects into unit, this could result in fire or electric shock. Never spill any liquid onto or into unit.
9. If an outdoor cable is connected to this unit, be sure the cable is grounded well.
10. For added protection of this unit during a lightning or electrical storm, or when it is left unused for a long period of time, unplug it from the wall outlet and disconnect all cables.

WARNING : Cover removal should only be performed by qualified service personnel. This unit contains no user serviceable parts.

1. Introduction

Your new quad processor offers high performance with a wide range of features, including :

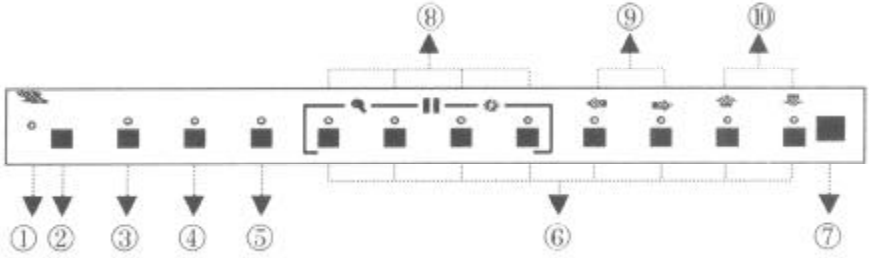
- ◇ Built-in high performance digital video processor which meet CCIR-601 digital video standard.
- ◇ Provide one "VCR IN" port for VCR to playback the video that had been recorded in a type.
- ◇ VP6800D provide full-duplex function for VCR playback and record in the same time. (User need two VCRs to achieve this feature)
- ◇ In VCR playback mode this unit provide 2X2 zooming and hold still picture on monitor.
- ◇ User can set different input video brightness, contrast, hue, saturation.
- ◇ Built-in real-time generator.
- ◇ Built-in OSD to display date/time, titles and system alarm event.
- ◇ Auto detect and display video loss.
- ◇ Individual camera loop-through output for further application.
- ◇ With alarm port for other security system application.
- ◇ Both 15-QC43 models provide RS-232 port with looping and address setting for PC to remote control up to 16 units.
- ◇ Two monitor output ports, user can watch VCR playback and live cameras in two monitors at the same time.
- ◇ There have three models for user to meet their requirement :

  15-QC43 : 8 cameras input dual-page with half-duplex.

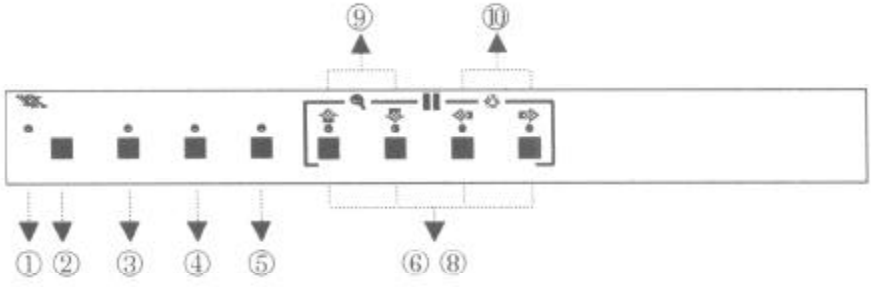
  15-QC42 : 4 cameras input single-page with half-duplex but without RS-232 remote function.

2. Outline

Front Panel - 15-QC43

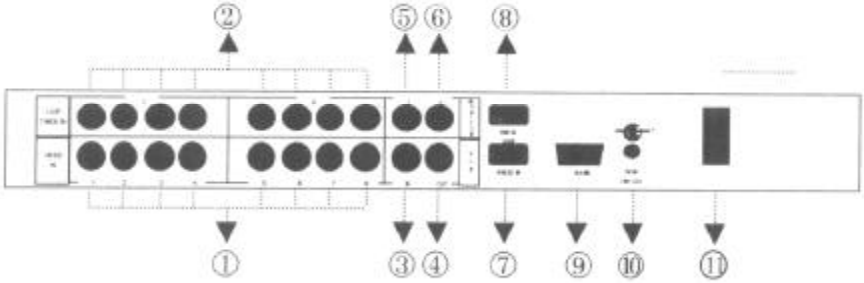


Front Panel - 15-QC42

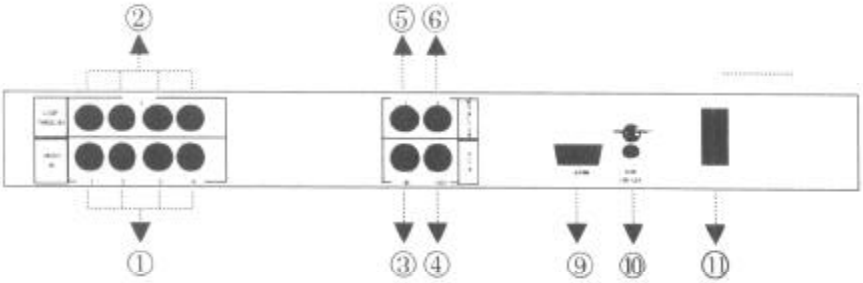


1. POWER INDICATOR
2. SETUP MENU
3. QUAD MODE
4. SEQUENTIAL
5. VCR MODE
6. CAMERA SELECT
7. RS-232 ADDRESS
8. ZOOM/STILL (in VCR mode)
9. SELECT ITEM (in menu)
10. CHANGE SETUP (in menu)

Back Panel - 15-QC43



Back Panel - 15-QC42



1. VIDEO IN (1-8)
2. VIDEO LOOP-THROUGH
3. VCR IN (for VCR playback)
4. VCR OUT (for VCR record)
5. MONITOR-1
6. MONITOR-2
7. RS-232 IN (to PC)
8. RS-232 LOOPING (for cascaded)
9. ALARM PORT
10. POWER IN
11. POWER SWITCH

3. Installation

NOTE : Please make sure to unplug power before connect any cable to this unit.

1. Place this unit on a flat, stable surface. Avoid locations that are subject to direct sunlight, excessive heat, moisture, or dust.
2. Connect the cables that come from cameras to "VIDEO IN" ports, the input impedance of these ports are 75 ohms.
3. Unless with other special application, user can leave the "LOOP-THROUGH" ports unconnected normally.
4. Connect "VCR IN" to "VIDEO OUT" of VCR if user want to use playback function.
5. Connect "VCR OUT" to "VIDEO IN" of VCR to record the picture.
6. Connect "MONITOR 1" to "VIDEO IN" of monitor and connect "MONITOR 2" to "VIDEO IN" of 2nd monitor if user have two monitors.
7. For both VP6800 models, connect "RS-232 IN" to PC through RS-232 cable if user want to use remote control function.

   If user have more than two 15-QC43 QUAD processors, connect "RS-232 LOOP" to "RS-232 IN" of next QUAD processor.

   NOTE : If user have more than two QUAD processor, please remember to set different address of each processor.
8. Connect "ALARM" to other equipment by 15 pins D-SUB connector. Definition of this port will be described in **section 6**.
9. After user complete all the connection, plug the adaptor and turn on the switch.

NOTE : "MONITOR 2" has same output as "MONITOR 1" normally, except in VCR MODE.

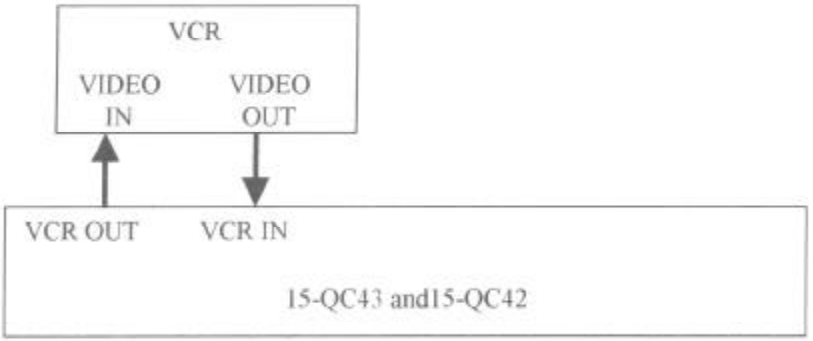
When in VCR MODE "MONITOR 1" will output VCR playback picture, and "MONITOR 2" will output live QUAD or cameras picture depend on different models.

For VP6800D, "MONITOR 2" can output live QUAD or sequential camera in VCR MODE depend on the status before user press "VCR" key.

For 15-QC43 and 15-QC42, "MONITOR 2" will be fixed to output live sequential camera in VCR MODE.

NOTE : Since 15-QC43 has the ability to record and playback in the same time. User need two VCR to achieve this feature.

One VCR setup for all models



4. Operating procedure

SEQUENTIAL QUAD MODE

This is the power on default mode for 15-QC43, this mode is not exist in VP6200. This unit will output two page QUAD sequentially in "VCR OUT", and two monitor ports.

Press the "QUAD" → "SEQ" keys will back to this mode.

SINGLE PAGE QUAD MODE

Press the "QUAD" key will get into this mode. Red indicator means output is page A (cameras 1 to 4), green indicate page B (camera 5 to 8). Since VP6200 only have 4 cameras input, it only has one page (page A).

Press "QUAD" key repetitious can switch output page.

NOTE : When in single page mode, the output of "VCR OUT" port will be also single page. User must avoid to get into this mode unless they want VCR to record only single page.

SINGLE CAMERA MODE

In this mode, two monitor ports will output the camera picture that user select. The "VCR OUT" port will output sequential QUAD (15-QC43).

Press the number in "CAMERA SELECT" key will get into this mode.

SEQUENTIAL CAMERA MODE

In this mode, two monitor ports will output the sequential camera picture in the interval user set. This unit will skip the camera inputs that are no signal automatically. The "VCR OUT" port will output sequential QUAD (15-QC43).

Press any number key → "SEQ" key will get into this mode.

VCR PLAYBACK MODE

Before get into this mode, please make sure that "VCR IN" has correct input signal.

When press "VCR" key, "MONITOR 1" will output full screen playback picture. "MONITOR 2" will output as described in section **3 Installation**.

2X2 ZOOMING and HOLD

After press "VCR" key, user can press one of the number "1" to "4" key to get into 2X2 zooming mode to watch 2X2 zooming picture of the playback picture.

"1" will zooming the cameras 1 and 5 in playback picture, "2" will zooming cameras 2 and 6, "3" will zooming cameras 3 and 7, "4" will zooming cameras 4 and 8.

Press the same number key again will hold the zoomed playback picture.

Press the same number key again will release the zoomed playback picture.

Press "VCR" key will back to full screen playback picture.

Press "SEQ" key will leave the VCR MODE.

5. Setup menu

Press the "MENU" key will get into setup menu.

There have 4 setup menus, press the "MENU" key repetitious to change the menu.

Use "SELECT ITEM" keys to select the item that want to change, then use "CHANGE SETUP" keys to change the value or status.

Press the "SEQ" or "QUAD" key can leave MENU.

NOTE : The output of "VCR OUT" and two monitor ports will switch to single page QUAD mode.

1st OSD menu

<SYSTEM SETUP>	
DATE MM-DD-YY	12-22-99
TIME HH:MM:SS	17:15:40
FORMAT	M-D-Y
AUTO RESET	10
ALARM SENS.	300MS
V.LOSS SENS.	300MS
QUAD A INTERVAL	03
QUAD B INTERVAL	03

AUTO RESET : Every time there has an ALARM or V.LOSS event, it will trigger an internal counter. When the counter reach the value user set this unit will clear the event automatically. (Unit : second)

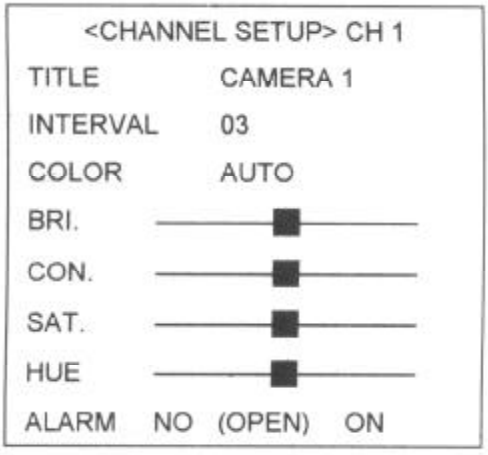
User can clear the event by press any key.

ALARM SENS. : The ALARM event will not occur unless the ALARM trigger is longer than what user set. (Unit : millisecond)

V.LOSS SENS. : The V.LOSS event will not occur unless the V.LOSS trigger is longer than what user set. (Unit : millisecond)

QUAD INTERVAL : The timing for sequential QUAD MODE, user can set different time for those two page. (Unit : second)

2nd OSD menu



CH : Select the input channel user want to set.

TITLE : 8 characters can be set for every channel.

INTERVAL : The timing for sequential CAMERA MODE.

COLOR : Color killer, default is AUTO. If the video signal of selected channel is with very low chroma level, it must be set to FIX to disable the automatic chroma remover. It usually happened with a very long cable connection between camera and this unit without frequency compensate. The limitation of the length will depend on the specification of cable.

BRI. : Adjust the brightness of input video.

CON. : Adjust the contrast of input video.

SAT. : Adjust the saturation of input video.

HUE : Adjust the hue of input video.

ALARM : There has three parts of this item.

1st one is to set the type of external alarm equipment. (NC or NO)

2nd one is the status detected by this unit in power-on initialization. (OPEN or CLOSE)

3rd one is to enable or disable ALARM trigger of this channel. (ON or OFF)

3rd OSD menu

<DISPLAY SETUP>		
MONITOR	DATE	ON
	TIME	ON
	TITLE	ON
QUAD	DATE	ON
	TIME	ON
	TITLE	ON
BUZZER		ON
V.LOSS		ON

MONITOR : Enable or disable to display date, time, title on two monitor output ports.

QUAD : Enable or disable to display date, time, title on "VCR OUT" port.

BUZZER : Enable or disable the unit to beep during an ALARM or V.LOSS event.

V.LOSS : Enable or disable this unit to check video loss event.

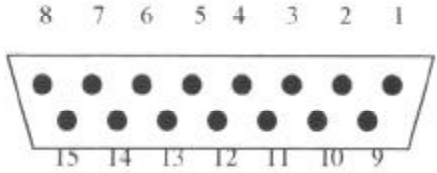
4th OSD menu

<ALARM RECORD> P.01			
V	CH2	03-15-99	16:38:44
A	CH5	03-18-99	06:13:06
A	CH3	03-18-99	11:39:57
A	CH8	03-19-99	20:09:35
V	CH1	03-25-99	18:23:22
V	CH6	03-28-99	11:56:23
A	CH2	04-05-99	09:14:29
V	CH4	04-11-99	21:32:31
V	CH7	04-15-99	12:11:39

P : Select the page number of alarm record. There have 11 pages and 9 records each page, total can save 99 records maximum.

There has 4 parts of each record, first one indicate ALARM or V.LOSS event and than followed by channel number, date, and time.

6. ALARM port



1. ALARM 1	9. ALARM 5 (only for 15-QC43)
2. ALARM 2	10. ALARM 6 (only for15-QC43)
3. ALARM 3	11. ALARM 7 (only for 15-QC43)
4. ALARM 4	12. ALARM 8 (only for 15-QC43)
5.	13. ALARM CLEAR
6. GROUND	14. GROUND
7. RELAY COMMON	15. RELAY N.O.
8. RELAY N.C.	

NOTE : The ALARM input 1 to 8 and clear input are pull high internally. Connect the "+" terminal of external alarm equipment to relative input pin and "-" terminal to ground.

This unit will detect the type of external alarm equipment automatically in power-on initialization.

The internal relay was set to N.C. position normally. So the pin 7 and 8 was short normally, and will be opened when an event was occur.

The pin 7 and 15 was open normally, and will be closed when an event occur.

WARNING : The rating of internal relay is : AC 120V 1A or DC 30V 1A. User must not overload the relay for safety reason.

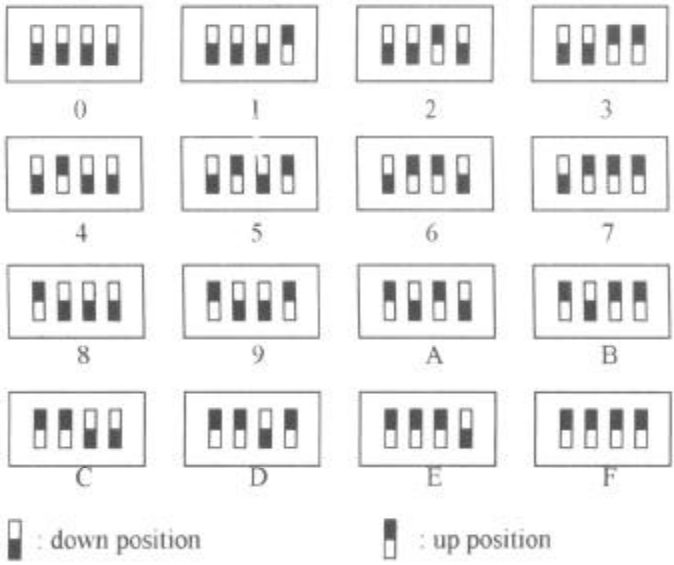
7. RS-232 ports (only for 15-QC43)

This unit have two RS-232 ports, it communicate with PC through "RS-232 IN". The "RS-232 LOOP" port is to bypass the data for cascaded connection.

NOTE : The original design of cascade communication is capable for 16 units maximum. But the maximum units that user can really cascaded will limited by the total length and the quality of RS-232 cable.

Since user can cascade 15-QC43 series QUAD processors, each QUAD processor must has unique address. The address can be hexadecimal 0 to F.

Address setting



This unit communicate through RS-232 without hand-shaking. It is internally short for pin 1, 4, 6 and pin 7, 8.

REMOTE COMMANDS (RS-232 interface)

Data format : 8bits, none parity, 1 stop bit.

Data rate : 4800 Baud

START byte : '/'

END byte : '.'

HOST TO QUAD : /Q[ADDRESS][COMMAND]. (following will all use address "1" as examples)

/Q1M. : Menu key

/Q1Q. : Quad key

/Q1S. : Sequential key

/Q1P. : Playback key

/Q11. to /Q18. : CH1 to 8 key

/Q1Dddmmyy. : Setup date

/Q1Thhmmss. : Setup time

/Q1C. : Clear alarm/v.loss even

/Q1R. : Erase alarm/v.loss records, this will erase all records that had been saved in memory.

/Q1Uxx. : Upload alarm record (xx = 1 to 99)

QUAD TO HOST : /Q[ADDRESS][DATA]. (following will use address "1" as examples)

/Q1A. : Acknowledge. Every time this unit received a host command, it will send an acknowledge back.

If host request to upload alarm record, this unit will send the appointed record in following format :

/Q1ddmmyyhhmmssA3. : CH3 alarm record

/Q1ddmmyyhhmmssV6. : CH6 video loss record

8. Specifications

SAMPLING RATE		910 pixels per line for NTSC 1135 pixels per line for PAL
TOTAL PIXELS PER LINE		858 H pixels for NTSC 864 H pixels for PAL
DISPLAY RATE		60 fields/second real-time refresh rate
CAMERE INPUTS	(15-QC43)	8 BNC, composite video 1Vp-p, 75 Ω
	(15-QC42)	4 BNC, composite video 1Vp-p, 75 Ω
LOOPING CAMERA	(15-QC43)	8 BNC, composite video 1Vp-p, 75 Ω
	(15-QC42)	4 BNC, composite video 1Vp-p, 75 Ω
VCR IN		1 BNC, composite video 1Vp-p, 75 Ω
VCR OUT		1 BNC, composite video 1Vp-p, 75 Ω
MONITOR OUTPUTS		2 BNC, composite video 1Vp-p, 75 Ω
ALARM INPUT/OUPUT		15 pins D-SUB female connector
RS-232 INPUT	(15-QC43)	9 pins D-SUB female connector
LOOPING RS-232	(15-QC43)	9 pins D-SUB male connector
OPERATION TEMPERATURE		5℃ to 45℃
RELATIVE HUMIDITY		5% to 85% (non-condensing)
POWER SOURCE		18V DC 1.2A